

JOURNAL OF THE WASHINGTON ACADEMY OF SCIENCES

VOLUME 42

November 1952

No. 11

ETHNOLOGY.—*Animal names, anatomical terms, and some ethnozoology of the Flathead Indians.* GEORGE F. WEISEL,¹ Montana State University, Missoula, Mont. (Communicated by John C. Ewers.)

A number of dictionaries and word lists have been made of the Flathead tongue, but no effort in the nature of an ethnozoological list has been undertaken. Not being naturalists, those who have studied the Flathead and allied Salishan tribes were unable to obtain accurate European and scientific equivalents for the Indian names of animals. Also, many of the lesser known animals were overlooked.

The most complete inventories of the Flathead language are *Grammatica linguae Selicæ* by P. Mengarini, S. J. (1861), and *A dictionary of Kalispel or Flat-Head language* compiled by J. Giorda, S. J. (1877-79). Both of these contain only the names of the more obvious animals, and they do not use modern linguistic description. There exist a number of short lists of Flathead terms gathered by early traders. Examples of these may be found in *The journals and letters of Major John Owen* (1927, pp. 319-325) and in *The journals of Alexander Henry and of David Thompson* (1897, pp. 714-718). The frontiersmen made no attempts at phonetic spelling, and, as they were primarily interested in trade, the animals listed were restricted to the fur bearers and the larger game species. There is some linguistic material in standard phonetic transcription in a paper by Turney-High (1937, pp. 150-160), but it is very limited and the animal terms are ill defined.

¹ I wish to express my gratitude to Carling I. Malouf who first interested me in pursuing this study, and who rendered invaluable aid throughout its preparation. I am indebted also to Dr. Philip L. Wright for his help on mammal identification and to Dr. Royal B. Brunson for aid with the invertebrates. Expenses were defrayed by a grant from the Research Committee, Montana State University, Missoula, Mont.

By far the most exact work on the Flathead language was done by Hans Vogt. In his monograph *The Kalispel language* (1940, p. 7) he asserted that the Kalispel tongue is almost identical with the Flathead. However, his dictionary does not include many of the animal names listed in this paper, and some of his terms are identified merely as "kind of bird" or "a fish." Other terms are not given their precise English name. For instance, his "red-headed wood-pecker" is more exactly the western pileated woodpecker. Most of Hans Vogt's names coincide rather well with those taken from my informants. Some discrepancies may be due to differences in Flathead and Kalispel dialects.

The homeland of the Flathead tribe proper, at least in historic times, was just west of the Continental Divide in the Bitterroot Valley of Montana (Teit, 1930, p. 310; Turney-High, 1937, p. 12). The fauna in this area has remained less changed since the advent of white men than most. Big-game species, such as elk, deer, bear, and mountain goat, are hunted there today. Undoubtedly, if the accounts of early travelers through this country are to be acknowledged, most of the mammals have been depleted greatly, especially bighorn sheep and grizzly bear (Koch, 1941, pp. 357-369). The Flathead relied on these animals and on wild plants for their needs. There is no evidence that they had domesticated plants. They were a nomadic people, well supplied with horses, who supplemented their local sustenance with buffalo, which they hunted regularly on the plains east of the mountains (Rep. Comm. Ind. Affairs, 1857, pp. 663-669; Ewers, 1948, p. 14). These factors

make the Flathead admirably suited for ethnozoological study. As the original fauna is qualitatively intact, the informants do not have to rely on hearsay for the recognition of animals; and, as they once depended on hunting and fishing for food, they are keenly aware of the animals around them.

Several Flathead Indians were questioned on aspects of ethnozoology, but it was soon evident that they cast aside veracity in their efforts either to please or to "pull the leg" of the interrogator. The chief informant finally selected was Ellen Big Sam, a woman of 71 years at closest estimate. She is exceptionally bright, has always been a close observer and lover of animals, and is sincere in her answers. She was born in the Bitterroot Valley and married into the tribe. Although she has some Shoshonean ancestry, she is said to speak as pure Flathead as anyone on the Flathead Reservation. Since she does not speak English, her adopted son, Joe Big Sam Woodcock, acted as interpreter. He is an intelligent man who served several years with the army in the South Pacific. According to Joe, Ellen knows the Indian names of more animals than any other Flathead. He claims that members of his own generation are acquainted with but few of them and that his young boy learns to speak Flathead reluctantly. Evidently, the older Indians—the few who can recall the days when most of their living came from the hunt—are the only ones who know most of the terms. This generation has practically died out. Acculturation has proceeded so rapidly that in another five to ten years the information will no longer be available.

To associate the Indian names as accurately as possible with the various animals, the principal informant was taken to the Zoology Museum of the University of Montana where mounted or pickled specimens were laid before her. A previous attempt at using colored pictures proved a failure. Ellen is not conditioned to visualizing from a flat perspective. In some instances, when she could not recall the name of a bird or a fish, she was allowed to take the specimen for further consideration to Mrs. Jerome Vanderberg, another older woman encamped near the University gathering bitterroots. Ellen possesses an

amazing knowledge of the local fauna and is undoubtedly accurate in her identifications. If she does not recognize an animal, or has forgotten its name, she admits it. To test her acumen, she was shown an eastern brook trout and a rainbow trout. Neither of these fish is native to the upper Columbia watershed, but they closely resemble the bull trout and the cut-throat trout, respectively, which are indigenous. She immediately spotted these two species as ones introduced into the country by white men.

For anatomical terms, a dissected cat and an articulated human skeleton were used. Although it was realized that older Indians had dressed out many mammals, it was still a surprise to find how well the viscera are known and the detail in which they are classified. For example, the greater omentum is not lumped in one word with the other mesenteries but is given a separate name.

The means of hunting and the role different animals played in the subsistence of the Flathead have been fairly well covered by Teit (1930, pp. 341-349) and Turney-High (1937, pp. 111-129). No particular effort was made to gather more information on the subject. However, a number of miscellaneous and out-of-the-ordinary observations were collected.

The simplified form of phonetic symbols from *Phonetic transcription of Indian languages* (Smithsonian Misc. Coll., 1916) is used in this study. Admittedly, my limitations in the highly specialized training needed for Indian orthography do not impart the precision desired. However, it is believed that the words can be easily recognized and that they should be of use to ethnologists and linguists who wish more accurate animal identifications than were previously provided.

FISHES

The fish fauna of western Montana has been greatly altered in the past 50 years. Accounts by men who were in the territory in 1850-65 reveal that trout were amazingly abundant in the Clark Fork and Bitterroot Rivers (Dodson, 1852, original MS.; Stewart, 1925, p. 186; McAdow, 1952, p. 45). But today it takes an expert fisherman and modern equipment to make much of a catch in these rivers. Pollution, irrigation, and overfish-

ing have taken their toll. Except for the introduction of rainbow trout (*Salmo gairdnerii*), brown trout (*Salmo trutta*), and brook trout (*Salvelinus fontinalis*), the species that inhabit the rivers and creeks must be the same as ages ago. In the lakes many more exotic species have been added. These include lake trout (*Salvelinus namaycush*), Great Lakes whitefish (*Coregonus clupeaformis*), black bullhead (*Ameiurus melas*), yellow perch (*Perca flavescens*), largemouth bass (*Micropterus salmoides*), and pumpkinseed (*Lepomis gibbosus*).

Although fish were extensively used for food by the Flathead, fishing contributed much less to their livelihood than hunting. There were no large runs of fish in their streams that could be relied on to furnish ample provender at certain times of the year. Their related tribes—the Pend d'Oreille, Kalispel, and Spokane—were much more dependent on fisheries.

The Flathead were well acquainted with the salmon, although it is not native to the waters of western Montana. There is a legend that Coyote attempted to bring them this fish, but, when part way up the west side of Lolo Pass, he became tired and dropped it, and it flopped back down the Idaho side of the divide. Lolo Pass, made famous in the journey of Lewis and Clark, bears the Indian name of tumsumclī (no salmon). However, the Flathead used to go south to the Snake and Salmon Rivers in Idaho for the salmon runs, often fishing in cooperation with Shoshones, Banacks, or Nez Percé. Women and children, as well as men, took part in catching the fish with weirs, traps, hooks, spears, and even clubs. Salmon usually were dried on racks and then packed in parfleches lined with wild mint.

Of the indigenous fish, dolly varden and cutthroat trout were favored most for food. Rattlesnake Creek, which flows into the Clark Fork River at Missoula, is called n'se'ai' for the dolly varden found there. These trout were caught with a baited hook and a line of woven horsehair, or snagged with bone hooks. Ellen Big Sam demonstrated how the bone hooks were manufactured from the scapula of deer. This thin, flat bone, when fresh, was fractured easily and the slivers fashioned into a barbed point, which was then fastened with sinews to a straight piece of bone or to a small stick.

Suckers and large minnows were utilized also. Fishing for them took place at any time of the year. Squawfish and chub, both large minnows,

were among the commonest and most easily caught. Like suckers, they were fried until crisp, as they are very bony. One means of cooking them in the past was to clean them and run a pointed willow into the mouth and posteriorly through the flesh of the back by the tail. Two or three fish could be skewered on a single stick and roasted over a fire. Fish that were caught locally were seldom preserved by drying or pounded into pemmican.

Two species of fish, the American grayling (*Thymallus signifer*) and the burbot (*Lota lota*), common in the upper Missouri River but not found in the Bitterroot, were shown to the principal informant. She had never seen or heard of them. When the Flathead were in the Missouri River country, they were intent on hunting and avoiding their enemies and undoubtedly did little if any fishing.

Eastern brook trout, yellow perch, largemouth black bass, and pumpkinseed were recognized by the Indians as transplanted and are known by the inclusive term simpūqit'qu, translated as "thrown in."

With a few minor omissions, the fish shown to the informant represent all kinds that are to be found in the drainage of the Bitterroot, Flathead, and Clark Fork Rivers—the streams that flow through the homeland of the Flathead Indians. They included introduced as well as native species. As with the other lists of vertebrate animals, the fish are grouped in Table 1 according to their systematic arrangement rather than alphabetically. The scientific and common English names are those approved by the Committee on Common and Scientific Names of Fishes (Trans. Amer. Fish. Soc., 1945, pp. 355-384).

AMPHIBIANS AND REPTILES

There are relatively few species of amphibians in the Rocky Mountain area, and what there are, are not numerous. Only on rare occasions, when starvation was imminent, were they used for food. The different species of frogs were not recognized, but they were distinguished from the toads. As the English translation of the Flathead name for tadpoles is "young frog," the Indians must have realized that tadpoles metamorphosed into the adult form and were not another kind of animal. In many respects the Indians were farther advanced in their knowledge of zoology than Europeans of two centuries ago.

The only reptile eaten was the turtle, which

was roasted in pits. Turtle eggs also were considered a delicacy. The reptiles listed below (Table 2) are common throughout the area, except the rattlesnake, which is more or less restricted to the upper part of the Bitterroot Valley.

BIRDS

The Flathead ate all the birds and their eggs, but, with the flesh of large mammals as plentiful as it was, birds were not seriously hunted. In particular, Franklin's grouse was taken fairly often, mostly because this "fool hen" can be procured simply by hitting it with a stick. Boys and squaws would sometimes set snares for sharp-tailed grouse; and snow buntings and wax-wings, which come into the country in large flocks early in winter, were shot and trapped for food. Magpie eggs were probably taken more

frequently than eggs of any other bird. The magpie's large nests are constructed in low trees and brush, and so they are conspicuous and easily accessible. Some effort was made to obtain eagles and large hawks for wing bones, from which medicine flutes were made, and for feathers. Ellen confirmed Turney-High's statement (1937, p. 113) on the method of capturing eagles. The hunter dug a camouflaged pit and placed a bait of guts on the edge of it. When an eagle lighted on the bait, it was grabbed with the hands. An eagle hunter always took several sweat baths before hiding in the pit, making it less likely that his body odor would betray his presence. Pileated woodpeckers were sought for an unusual purpose. The bill of this bird was considered to be efficacious for relieving toothache. It was ground to a powder and packed in tooth cavities.

TABLE 1.—FLATHEAD INDIAN NAMES OF FISHES

| Scientific classification | English name | Flathead name | Remarks |
|---------------------------------------|-----------------------------|---|--|
| Pisces | Fish in general | sawé'ús | |
| <i>Oncorhynchus nerka</i> | Red salmon | súmslí | |
| <i>Salmo clarkii</i> | Cut-throat trout | esk ^u aik ^u aisúe | The term refers to the "black" color their backs have in water when viewed from above. |
| <i>Salvelinus malma</i> | Dolly varden: | | |
| | small | se'ai' | |
| | large | ai' | |
| <i>Salvelinus fontinalis</i> | Eastern brook trout | sinpúqit'tq ^u | Called "thrown in" because they are planted. |
| <i>Prosopium williamsoni</i> | Mountain white fish | xoyu | Translated "puckered lips." |
| <i>Catostomus catostomus</i> | Longnose sucker | œ'féné | |
| <i>Catostomus macrocheilus</i> | Columbia largescaled sucker | k'ôqûé | |
| <i>Ptychocheilus oregonense</i> | Columbia squawfish | ci't'laus | |
| <i>Mylocheilus caurinum</i> | Columbia River chub | | |
| <i>Rhinichthys cataractae</i> | Longnose dace | clú'wé | The term is used for small fish in general. |
| <i>Richardsonius balteatus</i> | Redside shiner | | |
| <i>Ameiurus melas</i> | Black bullhead | ûpûpûtsi | The name "whiskers" refers to the barbels. |
| <i>Perca flavescens</i> | Yellow perch | | |
| <i>Micropterus salmoides</i> | Largemouth black bass | sinpúqit'tq ^u | See brook trout above. |
| <i>Lepomis gibbosus</i> | Pumpkinseed | | |
| <i>Cottus cognatus</i> | Slimy muddler | s'tit'ma | |

TABLE 2.—FLATHEAD INDIAN NAMES OF AMPHIBIANS AND REPTILES

| Scientific classification | English name | Flathead name | English equivalent |
|--------------------------------------|----------------------|--------------------------------------|--------------------|
| Amphibia: | | | |
| <i>Rana pipiens</i> | Leopard frog | slumslame | Young frog |
| <i>Rana pretiosa</i> | Spotted frog | | |
| Frog larva | Tadpole | s'ixnit'slumslame | |
| <i>Bufo boreas</i> | Toad | senaq ^u eq ^u a | |
| <i>Ambystoma macrodactylum</i> | Long-toed salamander | silsilê | |
| Reptilia: | | | |
| Ophidia | Snakes | sleçewile' | Black snake |
| <i>Thamnophis elegans</i> | Gartersnake | q ^u ai'sleçewile' | |
| <i>Thamnophis ordinatus</i> | | | |
| <i>Pituophis catenifer</i> | Gopher snake | sôlé'nû | |
| <i>Crotalis viridis</i> | Rattlesnake | k'lai'olex ^u | |
| <i>Chrysemys picta</i> | Painted turtle | spel'q ^u a | |

TABLE 3.—FLATHEAD INDIAN NAMES OF BIRDS

| Scientific classification | English name | Flathead name | Remarks |
|--|-----------------------|---|---|
| <i>Gavia immer</i> | Loon | úsolus | |
| <i>Aechmophorus occidentalis</i> | Western grebe | ste'fuksin | |
| <i>Ardea herodias</i> | Great blue heron | semalq ^u é | So named because its throat is rounded like a hill. |
| <i>Botaurus lentiginosus</i> | American bittern | x'awitó ^u | |
| <i>Cygnus columbianus</i> | Whistling swan | s'pak'amí | The term is referable to "something white." |
| Anatidae (in part)..... | Geese in general | k ^u esix'ó | |
| <i>Chen hyperborea</i> | Snow goose | wa'ó | Named for the sound they make. |
| <i>Branta canadensis</i> | Canada goose | t ^e petap ^a | The informant was not sure this was the goose to which the term applied. |
| <i>Branta sp.</i> | Domestic white goose | spa'k'amí | See swan above. |
| Anatidae (in part)..... | Ducks in general | sestlexum | The informant was unable to differentiate the mallard, baldpate, green-winged teal, pintail, or shoveller. |
| <i>Mergus merganser</i> | American merganser | sxaxai | |
| <i>Cathartes aura</i> | Turkey vulture | | Not recognized. |
| <i>Meleagris gallopavo</i> | Domestic turkey | n'slet'slata | |
| Accipitridae..... | Hawks in general | stelstelstamu | The term means, "it grabs." |
| | Small hawks | s'kakanó | |
| <i>Astur atricapillus</i> | Goshawk | s'k'ak'ai | |
| <i>Buteo borealis</i> | Red-tailed hawk | | This is one of the commonest hawks in the area, but it was not recognized. |
| <i>Aquila chrysaetos</i> | Golden eagle | mlekanu | |
| | Old dark golden eagle | skaifimí | |
| <i>Haliaeetus leucocephalus</i> | Bald eagle | p ^u kalkai | The name means "white head." |
| <i>Circus hudsonius</i> | Marsh hawk | k'ak'alstse | |
| <i>Pandion haliaetus</i> | Osprey | stex'ux'u | |
| <i>Falco peregrinus</i> | Duck hawk | xa'tot | |
| <i>Falco sparverius</i> | Sparrow hawk | e'lea | |
| <i>Dendragapus obscurus</i> | Blue grouse | ka | |
| <i>Bonasa umbellus</i> | Ruffed grouse | sq ^u isq ^u is | Term also used for domestic chickens. |
| <i>Pediocetes phasianellus</i> | Sharp-tailed grouse | s'k'a | |
| <i>Phasianus colchicus</i> | Ring-necked pheasant | éusue'sq ^u isq ^u is | Translated as "Chinamen's chicken." |
| <i>Fulica americana</i> | American coot | lídle | Name derived from the noise they make. |
| <i>Numenius americanus</i> | Long-billed curlew | wat'luwit | The cry of the curlew sounds like its Indian name. |
| <i>Oxyechus vociferus</i> | Killdeer | stécin | |
| <i>Totanus melanoleucus</i> | Greater yellowlegs | nosxína | The name, "long nose" refers to this bird's long beak. |
| <i>Larus californicus</i> | California gull | | |
| <i>Zenaidura macroura</i> | Mourning dove | xemf'sxem | The name is from the cooing sound the dove makes. |
| <i>Bubo virginianus</i> | Great horned owl | s'níne | |
| <i>Nyctea nyctea</i> | Snowy owl | n'psinme | |
| <i>Speotyto cunicularia</i> | Burrowing owl | n'fécuwa | |
| <i>Chordeilus minor</i> | Nighthawk | s'spas | When the nighthawk dives through the air, its wing feathers make a vibratory noise. The term is derived from this sound. |
| <i>Stellula calliope</i> | Calliope hummingbird | l'ówatní | |
| <i>Megasceryle alcyon</i> | Belted kingfisher | tsalís | |
| <i>Colaptes cafer</i> | Red-shafted flicker | q ^u elqe | Term is referable to "red wings." |
| <i>Ceophloeus pileatus</i> | Pileated woodpecker | spuwalqen | Term alludes to the beak and means "pick." |
| <i>Asyndesmus lewis</i> | Lewis's woodpecker | tsíutsú | |
| <i>Dryobates pubescens</i> | Downy woodpecker | ctelxú | |
| <i>Tyrannus verticalis</i> | Arkansas kingbird | elécéca | |
| <i>Riparia riparia</i> | Bank swallow | }clemo | The swallows are named "mud" for the material from which they construct their nests. |
| <i>Hirundo erythrogaster</i> | Barn swallow | | |
| <i>Cyanocitta stelleri</i> | Steller's jay | q ^u asq ^u i | Term is derived from the dark color of the bird. The bluejay dancers are so named because they paint themselves dark. Evidently there is no connection between the medicine dance and the bird. |
| <i>Pica pica</i> | American magpie | aun | |
| <i>Corvus corax</i> | Raven | u'la | |

TABLE 3.—(Cont.)

| Scientific classification | English name | Flathead name | Remarks |
|---------------------------------------|------------------------|---------------------------|---|
| <i>Corvus brachyrhynchos</i> | Crow | sea'a' | |
| <i>Nucifraga columbiana</i> | Clark's nutcracker | snalsqu | |
| <i>Penthestes gambeli</i> | Mountain chickadee | ctuskane | |
| <i>Cinclus mexicanus</i> | Dipper | k'axumēne | |
| <i>Turdus migratorius</i> | Robin | sk'lexaxaé | |
| <i>Sialia currucoides</i> | Mountain bluebird | n'sq'liq ^u a'a | The term means "it's blue." |
| <i>Regulus satrapa</i> | Golden-crowned kinglet | | Recognized, but no name recalled. |
| <i>Bombycilla cedrorum</i> | Cedar waxwing | kakusum | The waxwing's name means "star," perhaps for the yellow spot near the wing tip. |
| <i>Vireo olivaceus</i> | Red-eyed vireo | elqakuteaq ^u o | Same term used for other vireos, tanagers, and small yellow birds in general. |
| <i>Passer domesticus</i> | English sparrow | sūap'slue'wīū | Translated as "white man's bird." |
| <i>Sturnella neglecta</i> | Western meadowlark | we'o'wī' | |
| <i>Agelaius phoeniceus</i> | Red-winged blackbird | elkaiclkiskla | Translated as "pinto blackbird." |
| <i>Icterus bullocki</i> | Bullock's oriole | wē'ō'xō | |
| <i>Piranga ludoviciana</i> | Western tanager | elqakuteaq ^u o | See Vireo above. |
| <i>Hedymeles melanocephalus</i> | Black-headed grosbeak | } n'q'ūita'nak's | The Indian name means "big nose," alluding to the large beak. |
| <i>Hesperiphona vespertina</i> | Evening grosbeak | | |
| <i>Pinicola enucleator</i> | Pine grosbeak | | |
| <i>Loxia curvirostra</i> | Red crossbill | clai'ai'xosa | Translated "crossed nose." |
| <i>Junco oreganus</i> | Oregon junco | | Common, but not recognized. |
| <i>Melospiza melodia</i> | Song sparrow | s'xlasasi | Term derived from the sound of its song. |
| <i>Plectrophenax nivalis</i> | Snow bunting | xslum'men'kum'kut | Name translated as "little snows." |

According to the Indians, ducks, sharp-tailed grouse, and bitterns are much less numerous now than formerly. Also, they realize that the California gull, English sparrow, and Chinese pheasant are newcomers.

A checklist of the birds of western Montana compiled by the U. S. Forest Service (no date), contains 256 different species and subspecies. A great many of these are infrequent visitors to the state. Also, groups of them—especially the sparrows, warblers, and shorebirds—include numerous species that are difficult for even the avid birdwatcher to tell apart. Rather than include the whole list in this study, 70 of the most common and distinguishable birds were selected and exhibited to the informant. Their arrangement and nomenclature (Table 3) are adopted from the A.O.U. *Check-List of North American birds* (1931).

WILD MAMMALS

By far the greatest part of the Flathead's subsistence came from hunting large mammals. Although the narrow valleys in their own country had but few buffalo, there was an abundance of sheep, goat, elk, and deer which could support them. However, with the advent of the horse, it became more feasible to hunt the great herds of buffalo which grazed the plains on the other side of the Divide. In their seasonal quest for bison, the Flathead went at least as far east as the

Lower Musselshell and Big Horn, and as far south as Fort Hall. (For further information on this subject and the methods used on the hunt, see Teit, 1930, pp. 344-348; Turney-High, 1937, pp. 112-123; and Ewers, 1948, p. 14.)

Smaller mammals had important, though often overlooked, values. For instance, the weasel was trapped in the winter for its white fur and tail, which were much esteemed for trimmings on dress. It is still one of the most popular adornments on Flathead fancy clothes. Porcupine quills also were favored for decoration on clothing. Only the longest and most even quills were chosen; the sharp ends were cut off; and then they were boiled. Before the introduction of commercial dyes, quills were frequently colored by adding yellow lichen (*Evernia barbata*) to the water. After boiling, the softened quills were flattened by drawing them through the fingers. They were sewn in a zigzag fashion, held fast at each angle with sinews. Usually, two needles were used in sewing. It was a more arduous process than decorating with beads.

Small mammals were also a source of food. Rabbits were caught in snares for this purpose by children, and ground squirrels and marmots were hunted frequently. The last two, when baked or barbecued, were considered excellent eating. In preparation, the hair was first burnt off; next, they were gutted; and then the legs, which were

cut off close to the body, were sewn inside the coelomic cavity. Badgers were eaten sometimes, but the more numerous red squirrels seem to have received little attention.

In his checklist of the recent mammals of Montana, Wright (1951, pp. 47-50) includes 137 species and subspecies; 73 of these are thought to occur west of the Continental Divide. Most of the genera in the list have a number of species and subspecies which are so much alike that only a qualified mammalogist can separate them. As examples, there are 10 different chipmunks (genus *Tamias*) and 9 different pocket gophers (genus *Thomomys*). A test with a series of various chipmunk species showed that the Indians did not differentiate the mammals by obscure distinctions like cranial characters or coat color, such as used by systematists. Consequently, only 50 kinds of mammals were selected for identification—one chipmunk, one pocket gopher, etc.—but they are believed to be representative of all the mammals in Flathead country (Table 4).

DOMESTIC MAMMALS

The Flathead had comparatively large herds of horses, which were notably superior in stamina and quickness to most Indian cayuses. Traders came from the Emigrant Road in the 1850's to barter for these fine animals. One, Van Etten, came all the way from Salt Lake City to procure horses for the Pony Express, an organization that required the best. The Blackfeet, as well as white traders, coveted these horses and made frequent raids to steal them. A Blackfoot brave told Governor Stevens that he "stole the first Flathead horse he came across—it was sure to be a good one" (Rep. Explor. etc., 1855, vol. 1, p. 148; Woody, 1896, p. 97; Hamilton, 1900, p. 48; Stuart, 1925, vol. 1, p. 169). The Flathead used to castrate their horses before the coming of white men, even with flint knives; and they knew that if gelded after maturity the horse would retain more of the vigor of the stallion.

Some of the first herds of cattle in Montana were possessed by Flathead. They procured most of them from men who traded for worn-out stock along the Oregon Trail late in the 1840's and who wintered the animals in the relative safety of Flathead country. This animal husbandry was encouraged by the Jesuit missionaries at St. Marys in the Bitterroot Valley, and later at St. Ignatius, Flathead Valley (Rep. Explor. etc., 1855, vol. 1, p. 323; Stuart, 1925, vol. 2, p. 97;

Owen, 1927, numerous short references). It is evident from Table 5 that terms referring to cattle are derived from those used for buffalo.

The place of the dog in Flathead culture has been dealt with by Turney-High (1937, pp. 104-105). Ellen agreed that they did not use dogs for food as so many of the plains tribes did.

VERTEBRATE ANATOMY

Because they frequently dressed and prepared game, Flathead are naturally thoroughly familiar with vertebrate anatomy. They utilized practically all the carcass. Of the viscera, only the gall and urinary bladders were not eaten. Of course, sweetbreads, kidney, and liver were used; but besides, fat in the mesenteries was extracted for use in cooking; fat deposited around the kidney was considered a special dainty; brains served for food but were saved mostly for softening hides; and not only were the stomach and intestines devoured, but their contents were also. When the animal was reduced to a skeleton, the bones were not wasted, but were cracked to yield marrow (stos), and were mashed and boiled to make a broth. The greasy part of the broth which was skimmed off is called st̄elamos̄l.

Ellen related an interesting use of one of the bones. Flathead sharpers manufactured stick game bones from the humerus of man. They believed that if the human humerus were used, it would numb the hand of the opponent, and betray which held the bone. Should the opponent suspicion such treachery, he could wash his hands in water containing the petals of wild roses, which allowed him to handle the bone with impunity.

Some terms given in Table 6—such as thumb, wrist, and arm—are used also to designate the bones in that portion of the body. Rather than repeat them, they are listed only with the skeletal terms.

INVERTEBRATES

Unlike some tribes in arid regions to the south, the Flathead do not seem to have considered any of the invertebrates as food. The reason is clear. None of the invertebrates occurred in great abundance in western Montana, and the more edible plants and game animals were generally plentiful enough for their needs. This lack of reliance on invertebrates as a food source is reflected in the relatively poor acquaintance, compared with the vertebrates, that the Flathead have with insects, worms, and molluscs.

TABLE 4.—FLATHEAD INDIAN NAMES OF MAMMALS

| Scientific classification | English name | Flathead name | Remarks |
|----------------------------------|--|---|---|
| <i>Sorex cinereus</i> | Long-tailed shrew | | This small nocturnal animal was not recognized. |
| <i>Myotis lucifugus</i> | Little brown bat | t'elt'elue | |
| <i>Ursus americanus</i> | Black bear | unslamk'ai | |
| <i>Ursus horribilis</i> | Grizzly bear | s'umk'ai | |
| <i>Martes pennanti</i> | Fisher | | This mammal is scarce in the area. It was not recognized. |
| <i>Martes americana</i> | Marten | tlö'lo | |
| <i>Mustela frenata</i> | Long-tailed weasel: white peltage dark peltage | x'la'pa el'ei séa'xalé | |
| <i>Mustela vison</i> | Mink | | |
| <i>Gulo luscus</i> | Wolverine | | Rare this far south. Not recognized. |
| <i>Mephitis mephitis</i> | Striped skunk | x'a'stë ^u | |
| <i>Taxidea taxus</i> | Badger | s'f'xoi'xö | |
| <i>Lutra canadensis</i> | Otter | lk'ü | |
| <i>Vulpes fulva</i> | Red fox | wa'wa'a | |
| <i>Canis latrans</i> | Coyote | sinp'elë | |
| <i>Canis lupus</i> | Timber wolf | n'tsiutsen | |
| <i>Felis concolor</i> | Cougar | s'squ ^u tesumaye | |
| <i>Lynx canadensis</i> | Canada lynx | senk'asu | |
| <i>Lynx rufus</i> | Bobcat | senk'asu | |
| <i>Marmota flaviventris</i> | Golden-mantled marmot | senctesa | |
| <i>Citellus columbianus</i> | Columbian ground squirrel | s'f'së | |
| <i>Citellus lateralis</i> | Golden mantled ground squirrel | salí | |
| <i>Citellus tridecemlineatus</i> | Thirteen-lined ground squirrel | salí | |
| <i>Cynomys ludovicianus</i> | Black-tailed prairie dog | eleku | Not present on west side of Divide in Montana. |
| <i>Tamias amoenus</i> | Western chipmunk | k ^u k ^u s'áwä | |
| <i>Tamiasciurus hudsonicus</i> | Red squirrel | isëë | |
| <i>Glaucomys sabrinus</i> | Flying squirrel | sxo'pope | |
| <i>Thomomys talpoides</i> | Pocket gopher | pöle | |
| <i>Castor canadensis</i> | Beaver | skaléu | |
| <i>Dipodomys ordii</i> | Kangaroo rat | | Not recognized. It occurs only east of the Rockies. |
| <i>Peromyscus maniculatus</i> | White-footed mouse | q ^u eukutene | |
| <i>Neotoma cinerea</i> | Bush-tailed wood rat | xé'ot | |
| <i>Microtus pennsylvanicus</i> | Meadow mouse | stumxoiní | |
| <i>Ondatra zibethica</i> | Muskrat | ééélexo | |
| <i>Zapus princeps</i> | Jumping mouse | | Not recognized. |
| <i>Mus musculus</i> | House mouse | q ^u eukutene | This introduced species is given the same name as the white-footed mouse. |
| <i>Erethizon dorsatum</i> | Porcupine | sq ^u el'a | |
| <i>Ochotona princeps</i> | Rocky Mountain pika | s'ë'ine | |
| <i>Lepus americanus</i> | Snowshoe rabbit | el'q ^u a | |
| <i>Lepus townsendii</i> | Jack rabbit | el'q ^u a | |
| <i>Sylvilagus nuttallii</i> | Cottontail | w'uscle'a'áen | |
| <i>Cervus canadensis</i> | Wapiti: general term cow bull | tsétéa sene tséösene | |
| <i>Odocoileus virginianus</i> | White-tailed deer: doe buck | sta'ö swatle | |
| <i>Odocoileus hemionus</i> | Rocky Mountain mule deer: doe buck fawn fawn in fall | stoltse pöwe spalpi sleq ^u küelt ^o | The same term is used for domestic mules. |
| <i>Alces americanus</i> | American moose | saselkes | |

TABLE 4.—(Cont.)

| Scientific Classification | English name | Flathead Name | Remarks |
|------------------------------------|--|---|---|
| <i>Rangifer montanus</i> | Mountain caribou | stiele'st ^o | Caribou did not range as far south as Flathead country, but the neighboring Kalispel undoubtedly hunted them. |
| <i>Antilocapra americana</i> | American pronghorn | ste'an | Occasional pronghorns were possibly found on the west side of the Continental Divide. |
| <i>Bison bison</i> | American bison: general term bull cow calf yearling | q ^o oilq ^u ai q ^o oilq ^u aistolslem q ^o oilq ^u aiste'ma q ^o oilq ^u aitsclq ^u elq ^u ele slq ^u oik ^o k ^o | Translated as 'black mass.' |
| <i>Ovis canadensis</i> | Bighorn | cla'omene | |
| <i>Oreamnos americanus</i> | Mountain goat | cl ^o t ^l e | |

TABLE 5.—FLATHEAD INDIAN NAMES OF DOMESTIC MAMMALS

| English name | Flathead Name | English name | Flathead name |
|-------------------|---------------------------------|-------------------|---|
| Dog: | | Colors of horses: | |
| general term..... | q ^u asami | apaloosa..... | čela'elxū |
| male..... | sk'altamixuq ^u asami | bay..... | q ^u el |
| bitch..... | clamōq ^u asami | black..... | q ^u ai |
| pup..... | s'sltftt ^l e | brown..... | čelce'e |
| Horse: | | buckskin..... | čelpu |
| general term..... | sinčelsaska | gray..... | čaxai |
| stallion..... | n'melmelq ^u e | galamino..... | čepi |
| gelding..... | sk'altamxoska | pinto..... | k'ai'e |
| mare..... | samō | smoky..... | čelpa |
| filly..... | s'lamōskl'akai'I | Cow..... | ste'ma |
| colt..... | sk'altamixuk'akai'I | Bull..... | stolslem |
| yearling..... | cl'kēkōme | Calf..... | tsclq ^u elq ^u ele |
| race horse..... | sinskoikōsinsčelsaska | | |

Only the commonly occurring invertebrates were displayed for the informant. In the list below (Table 7), the arthropods are classified just to order, as this is about the level of recognition that the Indians have for them. It is true that the Flathead identify more insects than this list indicates, but they designate most of them merely by affixing the color of the animal, or large or small, to its general term—like red ant, black ant, and so on. The table is arranged according to the alphabetical sequence of the English names.

LITERATURE CITED

AMERICAN ORNITHOLOGISTS' UNION. *Check-list of North American birds*, ed. 4. 1931.
 ANNUAL REPORTS, COMMISSIONER OF INDIAN AFFAIRS. Washington, D. C., 1857.
 COMMITTEE ON COMMON AND SCIENTIFIC NAMES OF FISHES. *A list of common and scientific names of the better known fishes of the United States and Canada*. Trans. Amer. Fish. Soc. 75: 355-384. 1945.
 DODSON, JOHN F. [Original MS. diary in collec-

tions of Montana State Historical Society, Helena, 1852.]
 EWERS, JOHN C. *Gustavus Sohon's portraits of Flathead and Pend d'Oreille Indians, 1854*. Smithsonian Misc. Coll. 110(7): 1-68. 1948.
 GIORDA, J. *A dictionary of the Kalispel or Flat-Head Indian language, compiled by the missionaries of the Society of Jesus*, 2 vols. St. Ignatius, Mont., 1877-79.
 HAMILTON, WILLIAM T. *A trading expedition among the Indians in 1858, from Fort Walla Walla to the Blackfoot country and return*. Contr. Hist. Soc. Mont. 3: 33-123. 1900.
 HENRY, ALEXANDER, and THOMPSON, DAVID. *The journals of Alexander Henry and of David Thompson. New light on the early history of the greater Northwest*, 3 vols. Edited by Elliott Coues. New York, 1897.
 KOCH, ELLERS. *Big game in Montana from early historical records*. Journ. Wildlife Management 5(4): 357-370. 1941.
 McADOW, PERRY W. *Perry W. McAdow and Montana in 1861-1862*. Edited by Ross Toole. Montana Mag. Hist. 2(1): 41-53. 1952.
 MENGARINI, GREGORY. *Grammatica linguac Seli-cae*. New York, 1861.
 OWEN, JOHN. *The journals and letters of Major*

- John Owen, 1850-1871*, 2 vols. Edited by Seymour Dunbar and Paul C. Phillips. New York, 1927.
- REPORT OF COMMITTEE OF AMERICAN ANTHROPOLOGICAL ASSOCIATION. *Phonetic transcription of Indian languages*. Smithsonian Misc. Coll. 66(6): 1-15. 1916.
- REPORT OF EXPLORATIONS AND SURVEYS TO ASCERTAIN THE MOST PRACTICABLE AND ECONOMIC ROUTE FOR A RAILROAD FROM THE MISSISSIPPI RIVER TO THE PACIFIC OCEAN . . . 1853-55. Ex. Doc. No. 78, vol. 1 of 12 vols. Washington, D. C., 1855.
- STUART, GRANVILLE. *Forty years on the frontier*, 2 vols. Edited by Paul C. Phillips. Cleveland, 1925
- TEIT, JAMES A. *The Salishan tribes of the western plateau*. Edited by Franz Boas. 45th Ann. Rep. Bur. Amer. Ethnol.: 23-395. 1930.
- TURNER-HIGH, HARRY H. *The Flathead Indians of Montana*. Mem. Amer. Anthropol. Assoc. 48: 1-161. 1937.
- U. S. FOREST SERVICE, REGIONAL OFFICE, MISSOULA, MONT. *List of the birds of Western Montana*. Field Notes on Wildlife, Northern Rocky Mountain Region. Missoula, no date.
- VOGT, HANS. *The Kalispel language*. I Kommissjon Hos Jacob Dybwad, Oslo, Norway, 1940.
- WOODY, F. H. A. *Sketch of the early history of Western Montana*. Contr. Hist. Soc. Montana 2: 88-106. 1896.
- WRIGHT, PHILIP L. *Check list of the recent mammals of Montana*. Proc. Montana Acad. Sci. 10: 47-50. 1951.

TABLE 6.—FLATHEAD INDIAN ANATOMICAL TERMS

| English term | Flathead term | English term | Flathead term |
|--|-------------------------------|-------------------------------|---------------------------|
| External anatomy: | | Skull | spelkainiipa |
| Back of any animal | senč'emēēs | Tail (caudal vertebrae) | susps |
| Beak of bird or nose of mammal | sunpewa | Thigh (femur) | stōō'in? |
| Calloses | senolxawēcēnsen | Toes (phalanges) | stōōēin |
| Chest of any animal | s-ōōawaōēē | Vertebrae | asxap-m |
| Claws of bird or mammal | k'ōlk'ai | neural spine | c-liēen |
| Ear of mammal or operculum of fish | tene | Wrist (carpals) | sq'alēūmsene |
| Elbow | s-čūmwōsaxum | Internal anatomy: | |
| Eye | s-čūq'elū | Afterbirth (placenta) | senumxumwxel |
| Feather | skapu | Anus | senpōten |
| Fins of fish: | | Blood | senxule |
| anal | tu'oc | Blood vessel | k'ak'axum |
| dorsal | sinēlēen | Brain | sapenk'ai-n |
| paired | tō'tis | Caecum | salenē |
| Hair | spum | Diaphragm | estwep |
| Head | sp'elki-n | Gall bladder | q'alīn |
| Hide | k'ett | Greater omentum | sētq'ē |
| Hip and thigh region | stumst-e | Heart | spu'us |
| Knee | sčumkai'sene | Intestine, large | spalekai |
| Leg | sčēcmakasčēs | Intestine, small | stxenč |
| Mandible of mammal or lower beak of bird | g'ūep'ē | Kidney | m-tas |
| Pads on feet of dog, etc. | steecs | fat surrounding kidney | ōlxosī |
| Scales of fish | čēmēēs | Liver | pe'nInē |
| Shoulder | senčūmk'ai | Lungs | spe'upuxa |
| Tail of fish, bird, or mammal | susps | Mesentery, other than omentum | sōcus |
| Teats | sk'ai'em | Nostril | senla |
| Toes | ctesčis | Pancreas | xelīp'ē? |
| Wing | čūwaxunskai'pu | Rectum | spōōū |
| Skeletal system: | | Soul | senčēmēēcēnsus |
| Ankle (tarsals) | sg'elčūmsčēen | Spleen | xelīp'ē |
| Arm (including humerus, radius, ulna) | sčawaxun | Stomach | o-līn |
| Breast bone (sternum) | sk'ēpemin | abomasum of ruminant | sk'ai'etle |
| Collar bone (clavicle) | ntclek'ai | rumen of ruminant | c-xaip'ē |
| Finger (phalanges): | | Teeth | x'alewxo |
| in general | saq'amen | sharp teeth as canines | wicēnx'alewx ^o |
| little finger | sta'ōtekai | bridle teeth of elk | senk'axumī |
| middle finger | saq'amenesl'nq'ū ^o | Tendon | tīnē |
| ring finger | sta'ōtkaislnq'ū ^o | Throat or esophagus | sk'almlēten |
| thumb | sčūlēst | Tongue | tīxucē |
| Heel (tarsals) | sčmelēen | Trachea | c'apeck'ai'altlēt' |
| Knee cap (patella) | čēnkaieēen | Urinary bladder | sentēēfta |
| Pelvis (innominate) | t-kaleme | Urine | tē'e |
| Ribs | sxōx'tip | Uterus | senšwō'sewxelten |
| Shank (tibia and fibula) | sčēcmakeēen | Vulva | t-ēēf |
| Skeleton | spa'estso | | |

TABLE 7.—FLATHEAD INDIAN NAMES OF INVERTEBRATES

| Scientific classification | English name | Flathead name | Remarks |
|--|----------------------|---------------------------------------|--|
| PLATYHELMINTHES: | | | |
| Sp..... | Tapeworm | senxa'seme | Translated as "breeding inside." |
| MOLLUSCA: | | | |
| <i>Margaritana margaritifera</i> | Clam | skōq'ilane | Procured by trade from coast Indians and used to decorate the dress. |
| Sp..... | Cowry | ta'mlō | |
| <i>Helisoma trivolvis</i> | Snail | } ta'mlō | Translated as "sucking on something." |
| <i>Lymnea stagnalis</i> | Snail | | |
| ANNELIDA: | | | |
| Sp..... | Earthworm | ēttequqanē | The term means "bait." It is used for fish-bait other than earthworms. |
| <i>Placobdella parasitica</i> | Leech | ta'mlō | Identical word used for snail. |
| ARTHROPODA: | | | |
| Hymenoptera..... | Ant | skwōwī | Word used for small clicking beetles (family Elateridae). |
| Hymenoptera..... | Bee | skol'wī | |
| Coleoptera..... | Beetle | ta'so'oc | |
| Lepidoptera..... | Larva of wood beetle | slwī'ēlq ^u a | The aquatic larvae of the caddis-fly construct portable cases of sand or vegetable debris. The Indian name translated as "bound on the outside" refers to this case. |
| | Butterfly | k ^u el'lōdlex ^o | |
| | Caterpillar | ēflaq ^u ate | |
| Trichoptera..... | Caddis-fly larva | tc'āncānpī | Not recognized. |
| Decapoda..... | Crayfish | | The word is used for insects with two pairs of large flight wings. |
| Orthoptera..... | Cricket | salsl | |
| Odonata..... | Dragonfly | x'awatekaine | |
| Diptera..... | Fly | xelmalten | As the maggot has the same name as the fly, it was evidently realized that the larvae metamorphosed into flies. |
| | white maggot | xelmalten | |
| | black maggot in meat | tētēslu | |
| Orthoptera..... | Grasshopper | ttace | |
| | Hive of wasps | skolslex ^u | |
| Lepidoptera..... | Moth..... | ēq ^u eq ^u e'ene | |
| Diptera..... | Mosquito | se'lakus | |
| Araneida..... | Spider | sōē'te | |
| | large spider | two'pn' | |
| Plecoptera..... | Stonefly | sta'kanēen | |
| Hemiptera..... | Water strider | stetōōme | |
| Acarina..... | Wood tick | ōstēlēen | Translated as "horns lying down," and has its origin from a legend in which the tick loses a set of horns it once had. |

PALEONTOLOGY.—*The type species of the gastropod genus Protostylus.* ROGER L. BATTEN, Geology Department, Columbia University. (Communicated by G. A. Cooper.)

In preparing the classification of Paleozoic gastropods for the *Treatise on invertebrate paleontology*, it was noticed that the type for the genus *Protostylus* has not been fixed. The genus was proposed by H. Mansuy in 1914¹

with two described species *P. lantenoisi* and *P. dussaulti*. The better illustrated and described species is *P. lantenoisi*, and it is hereby designated as the genotype species.

¹ Mansuy, H., *Nouvelle contribution à la paléontologie du Yunnan*: 1. Mémoires du Service Géolo-

gique de L'Indochine, pp. 11-12, pl. 1, figs. 17 a, b, 18 a, b, 1914.